IN THE CLAIMS

1. (Currently Amended) A flow homogenizer for insertion in a pipeline conveying a particulate material carried by a carrier fluid comprising a pipe having an inlet end and an outlet end and including a core defined by ~~one~~ two or more core pipe sections arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent to one another in a fixed spatial arrangement and connected in series between the inlet end and the outlet end, each upstream and downstream pipe section defining a relatively gradual or rapid change in cross-sectional area in order to mix particulate material and carrier fluid entering the inlet end to form a homogeneous mixture on exit from the outlet end~~.~~, and the cross-sectional area of each upstream core pipe section increasing from an inlet cross-sectional area at an upstream end thereof to a relatively larger cross-sectional area at a downstream end thereof.

2.-22. (Cancelled)

23. (Previously Presented) A homogenizer according to Claim 1 wherein the cross-sectional areas of the inlet and outlet ends are equal.

24. (Currently Amended) A flow homogenizer according to Claim 1 wherein ~~the core is defined by two core pipe sections, the first~~ each upstream core pipe section ~~defining~~ defines a relatively gradual increase in cross-sectional area from ~~an~~ the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and ~~the second~~ each downstream

core pipe section ~~defining~~ defines a relatively rapid decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof.

25. (Currently Amended) A flow homogenizer according to Claim 1 wherein ~~the core is defined by two core pipe sections, the first~~ each upstream core pipe section ~~defining~~ defines a relatively gradual increase in cross-sectional area from ~~an~~ the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and ~~the second~~ each downstream core pipe section ~~defining~~ defines a relatively gradual decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof.

26. (Currently Amended) A flow homogenizer according to Claim 1 ~~the core is defined by two core pipe sections, the first~~ each upstream core pipe section ~~defining~~ defines a relatively gradual increase in cross-sectional area from ~~an~~ the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and ~~the second~~ each downstream core pipe section ~~defining~~ defines a relatively rapid decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof, the length of the ~~first~~ upstream core pipe section being 1.5 times the diameter of the core at the inlet end and the diameter of the core at the junction between the ~~first~~ upstream and ~~second~~ downstream core pipe sections being 1.3 times the diameter of the core at the inlet end.

27. (Currently Amended) A flow homogenizer according to Claim 1 wherein ~~the core is defined by two core pipe sections, the first~~ each upstream core pipe section ~~defining~~ defines a

relatively gradual increase in cross-sectional area from ~~an~~ the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and ~~the second~~ each downstream core pipe section ~~defining~~ defines a relatively gradual decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof, the length of the ~~first~~ upstream core pipe section being 1.5 times the diameter of the core at the inlet end and the diameter of the core at the junction between the ~~first~~ upstream and ~~second~~ downstream core pipe sections being 1.3 times the diameter of the core at the inlet end.

28. (Currently Amended) A flow homogenizer according to Claim 1 wherein ~~the core is defined by two core pipe sections, the first~~ each upstream core pipe section ~~defining~~ defines a relatively rapid increase in cross-sectional area from ~~an~~ the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and ~~the second~~ each downstream core pipe section ~~defining~~ defines a relatively rapid decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof.

29. (Currently Amended) A flow homogenizer according to Claim 1 wherein ~~the core is defined by two core pipe sections, the first core~~ each upstream pipe section ~~defining~~ defines a relatively rapid increase in cross-sectional area from ~~an~~ the inlet cross-sectional area to a maximum cross-sectional area at the downstream end thereof and the ~~second~~ each downstream core pipe section ~~defining~~ defines a relatively gradual decrease in cross-sectional area from the maximum cross-sectional area to an outlet cross-sectional area at a downstream end thereof.

30. (Currently Amended) A flow homogenizer according to Claim 1 wherein the core is defined by four core pipe sections and a middle section the four core pipe sections being arranged in tow pairs, each first and second pair comprising respective upstream and downstream core pipe sections, the first ~~and second~~ pair of core pipe sections being connected in series between the inlet end and the middle section, and the ~~third and fourth~~ second pair of core pipe sections being connected in series between the middle section and the outlet end, the ~~first~~ upstream core pipe section of the first pair of core pipe sections defining a gradual increase in cross-sectional area from ~~an~~ the inlet cross-sectional area to a first maximum cross-sectional area at a downstream end thereof, the ~~second~~ downstream core pipe section of the first pair of core pipe sections defining a relatively rapid decrease in cross-sectional area from the first maximum cross-sectional area to a middle cross-sectional area, the ~~third~~ upstream core pipe section of the second pair of core pipe sections defining a relatively gradual increase in cross-sectional area from the middle cross-sectional area to a second maximum cross-sectional area at the downstream end thereof and the ~~fourth~~ downstream core pipe section of the second pair of core pipe sections defining a relatively rapid decrease in cross-sectional area from the second maximum cross-sectional area to an outlet cross-sectional area at the downstream end thereof.

31. (Currently Amended) A flow ~~h6omogenizer~~ homogenizer for insertion in a pipeline conveying a particulate material carried by a carrier fluid comprising a pipe having an inlet end and an outlet end and including a core defined by ~~one~~ two or more core pipe sections arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent to one another in a fixed spatial arrangement and connected in series between the inlet

end and the outlet end, each ~~core~~ upstream and downstream pipe section defining a relatively gradual or rapid change in cross-sectional area in order to mix particulate material and carrier fluid entering the inlet end to form a homogeneous mixture on exit from the outlet end, and the cross-sectional area of each upstream core pipe section increasing from an inlet cross-sectional area at an upstream end thereof to a relatively larger cross-sectional area at a downstream end thereof, the flow homogenizer further including a flow control system located at the inlet end.

32. (Currently Amended) A flow homogenizer for insertion in a pipeline conveying a particulate material carried by a carrier fluid comprising a pipe having an inlet end and an outlet end and including a core defined by ~~one~~ two or more core pipe sections arranged in pairs comprising respective upstream and downstream core pipe sections lying adjacent to one another in a fixed spatial arrangement and connected in series between the inlet end and the outlet end, each ~~core~~ upstream and downstream pipe section defining a relatively gradual or rapid change in cross-sectional area in order to mix particulate material and carrier fluid entering the inlet end to form a homogeneous mixture on exit from the outlet end, and the cross-sectional area of each upstream core pipe section increasing from an inlet cross-sectional area at an upstream end thereof to a relatively larger cross-sectional area at a downstream end thereof, the flow homogenizer further including a flow control system located at the outlet end.

33. (Previously Presented) A flow homogenizer according to Claim 31 wherein the flow control system includes at least one wedge-shaped ramp on an inner surface of the pipe.

34. (Previously Presented) A flow homogenizer according to Claim 32 wherein the flow control system includes at least one wedge-shaped ramp on an inner surface of the pipe.

35. (Previously Presented) A flow homogenizer according to Claim 31 wherein the flow control system includes a plurality of wedge-shaped ramps spaced about the inner circumference of the inner surface of the pipe.

36. (Previously Presented) A flow homogenizer according to Claim 32 wherein the flow control system includes a plurality of wedge-shaped ramps spaced about the inner circumference of the inner surface of the pipe.

37. (Previously Presented) A flow homogenizer according to Claim 31 wherein the flow control system includes at least one aerofoil on an inner surface of the pipe.

38. (Previously Presented) A flow homogenizer according to Claim 32 wherein the flow control system includes at least one aerofoil on an inner surface of the pipe.

39. (Previously Presented) A flow homogenizer according to Claim 31 wherein the flow control system includes a plurality of aerofoils spaced about the inner circumference of the inner surface of the pipe.

40. (Previously Presented) A flow homogenizer according to Claim 32 wherein the flow control system includes a plurality of aerofoils spaced about the inner circumference of the inner surface of the pipe.

41. (Previously Presented) A flow homogenizer according to Claim 31 wherein the inner surface of the input pipe section is shaped to define a flow control system in the form of a tapered throat.

42. (Previously Presented) A flow homogenizer according to Claim 32 wherein the inner surface of the input pipe section is shaped to define a flow control system in the form of a tapered throat.

43. (Previously Presented) A flow homogenizer according to Claim 31 wherein the flow control system includes a combination of one or more wedge-shaped ramps, one or more aerofoils and/or a tapered throat.

44. (Previously Presented) A flow homogenizer according to Claim 32 wherein the flow control system includes a combination of one or more wedge-shaped ramps, one or more aerofoils and/or a tapered throat.

45. (Previously Presented) A flow homogenizer according to Claim 1 further including one or more air jets at the inlet end.

46. (Previously Presented) A flow homogenizer according to Claim 31 further including one or more air jets at the inlet end.

47. (Previously Presented) A flow homogenizer according to Claim 32 further including one or more air jets at the inlet end.

48. (Previously Presented) A flow homogenizer according to Claim 1 further including one or more air jets at the outlet end.

49. (Previously Presented) A flow homogenizer according to Claim 31 further including one or more air jets at the outlet end.

50. (Previously Presented) A flow homogenizer according to Claim 32 further including one or more air jets at the outlet end.